Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.





FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

Colorado River Drainage Basin

Ву

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineers of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.



As of MAY 1, 1950



WATER SUPPLY OUTLOOK

COLORADO RIVER DRAINAGE

Snow accumulation on the headwaters of the Upper Colorado River varies from a near all time high of 220% on the Green River in Southern Wyoming to very low in Northern New Mexico and Southwestern Colorado. Soil moisture conditions follow the same pattern as snow cover.

The water supply outlook in Arizona is poor. There has been very little snow during the winter months. Reservoir storage is much below last year and below normal. Streamflow is near record low.

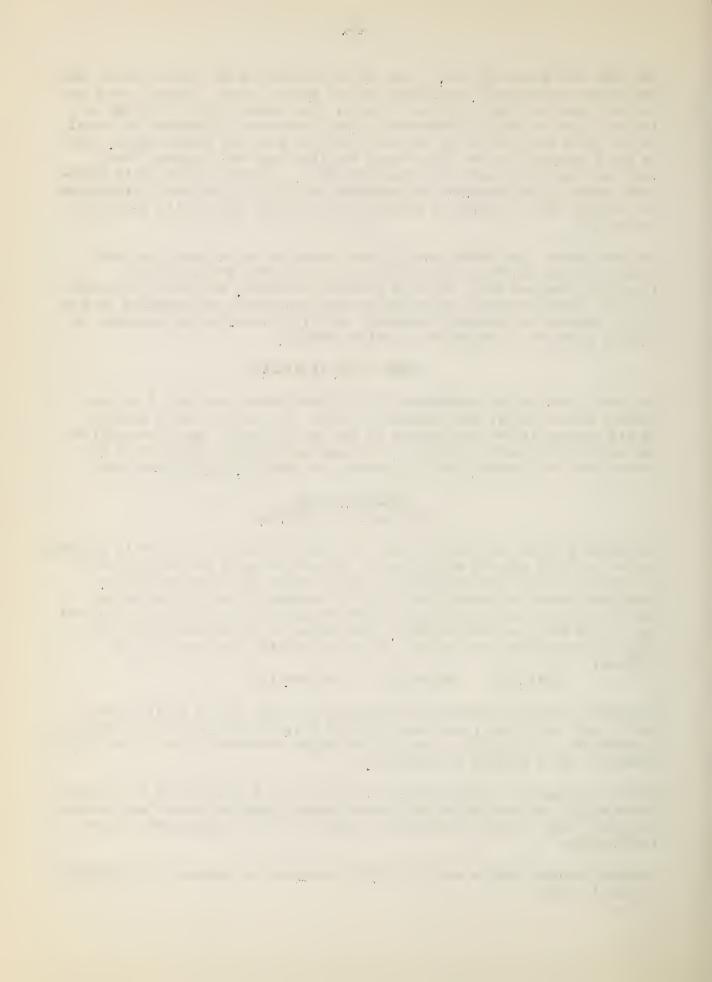
COLORADO RIVER AND TRIBUTARIES IN COLORADO

Colorado River (above Glenwood Springs): From the May 1 snow surveys the outlook for this section is favorable. The snow accumulation is 105% of average and 110% of last year. The Roaring Fork fell to slightly below normal, being 91% of both normal and last year. Precipitation in this area has been about average for April. In the lower elevations the snow is melting fast, but at the higher elevations the snow is about normal. Ground moisture is reported as fair.

Gunnison River: The snow accumulation in this area is only about 80% of normal and 85% of last year. On the North Fork and other areas to the north of the river the water supply outlook is good, but to the south around Marshall Creek Fass and west along the Continental Divide the snow is considerably below normal. There is no point on this drainage where the average is above normal to any extent. Storage in Taylor Park reservoir is 75,325 compared to 62,200 a year ago. Soil moisture conditions in this area are reported as fair. The precipitation has been about 50% of normal. Streamflow is about average.

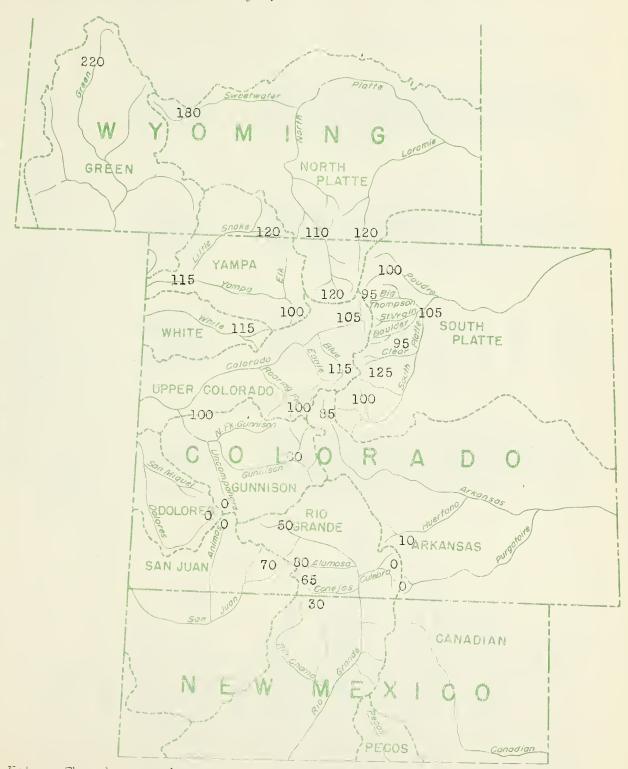
Yampa and White Rivers: The Yampa and the White have similar snow accumulations with the Yampa 118 and the White 115% of normal. The Yampa is 108% of last year, but the White is only about 72% of last year. Higher elevation snow courses are considerably above normal but the lower courses are from slightly below to about normal. Soil moistue, range and crop conditions are described as good. The summer flow of these streams should be normal or slightly above.

Miscellaneous Series Paper No. 469, Colorado Agricultural Experiment Station



WATER CONTENT OF SNOW ON THE WATERSHEDS OF PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH

In Percent of Normal May 1, 1950



Note: The above numbers represent actual snow cover on the snow courses on the watershed in percent of normal May 1, 1950. These numbers do not necessarily coincide with expected summer runoff.



COLORADO RIVER DRAINAGE BASIN STREAM FLOW FORECASTS, May 1, 1950

		April-Sept.,	Incl., Streamflow,	ow, Acre Feet	
BASIN AND STREAM	Forecast 1950	1949	Teasured Runoff 1948	1947 1947	10-year Avg. 1939-1948
GREEN					
Green at Linwood, Utah Little Snake at Lily Elk at Clark Yampa at Steamboat Springs White at Meeker	2,000,000 100,000 250;000 300;000 275,000	1,145,000 493,000 267,000 340,000 403,000	1,077,000 285,000 189,000 291,000 331,000	1,817,000 342,000 234,000 333,000 404,000	1,113,000 319,000 199,000 271,000 310,000
COLORADO	,				
Colorado near Granby Willow Creek near Granby Frazer at Granby Blue above Green Mt. Res Colorado at Glenwood Springs Roering Fork at Glenwood Springs Plateau Creek at Colona Gunnison at Iola Uncompangre at Colona Surface Creek near Cedaredge Gunnison at Grand Junction San Juan at Rosa, N. M. Piedra Creek at Piedra Los Pinos near Bayfield Florida near Durango Animas at Durango Animas at Durango Animas at Hesperus Dolores at Dolores San Liguel at Naturita Colorado near Grand Canyon-Ariz.	190,000; 10,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000	137,000 122,000 1,672,000 1,672,000 58,000 673,000 1,750,000 307,000 307,000 371,000 371,000	152,000 38,000 91,000 1,477,000 1,477,000 737,000 1,966,000 1,966,000 230,000 321,000 321,000 321,000 321,000 321,000 321,000 321,000 321,000 321,000 321,000	250,000 162,000 1,881,000 1,008,000 1,008,000 178,000 178,000 178,000 178,000 185,000 185,000 185,000 185,000 188,000 180,000	186,000 37,000 92,000 287,000 738,000 63,000 176,000 176,000 195,000 215,000 215,000 215,000 215,000 215,000 215,000 215,000 215,000 225,000



SNOW SURVEYS AND IRRIGATION WATER FORECASTS

COLORADO RIVER BASIN

STATUS OF RESERVOIR STORAGE, MAY 1, 1950

		USABLE					
BASIN AND STREAM	RESERVOIR	CALACITY	THOUSANDS	S ACRE FEET		IN STORAGE ABOUT MAY 1	.У 1
		(Thous.A. Ft.)	1950	1949	1948	1947	10-yr. Avg. 1939-1948
COLORADO DRATNAGE							
Taylor River	Taylor Park	106.2	75.3	62.2	87.8	68.0	71.2
Los Pinos River	Vallecito	126.3	77.9	32.3	20.4	66.2	30.9
Groundhog Creek	Groundhog	21.7	11,0	80 V.	16.7	12.0	7.6
Blue River	Green Mountain	146,9		50,4	50.7	0,19	31.7
Colorado River	Lake Mead	27,935.0	17,730.0	17,869.0	19,144.0	16,283.0	19,893.9
Colorado River	Lake Havasu	0.899	660.8	4,959	8,999	9.759	51,026.0
SALT AND GILA DRAINAGE							
Salt River	Roosevelt	1,420,0	225,0	139.7	153.2	7777	620.4
**	Horse Mesa	245.0	241,2	192,8	155.0	237.5	207,6
2	Mormon Flat	58.0	54.1	47.3	43.1	47.3	1,7.8
=======================================	Stewart Mt.	70.0	47.4	38.0	47.4	57.3	52.8
Verde River	Bartlett	179.5	13.0	131.9	21.3	0.0	62.1
Aqua Fria River	Carl Pleasant	173.0		30°6	1		37.2
Gila River	San Carlos	1,200.0	45.0		14.4	0.4	245.4
Verde River	Horseshoe	0°29	7.7	25.3	0,1	0.0	8,5%

*Some for shorter periods

. . .

SNOW SURVEYS AND IRRIGATION WATER FORECASTS for

COLORADO RIVER BASIN May 1, 1950 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS SUMMARY OF MAY 1

						Number				1950 Water Content	Content
WATERSHEDS	Snow Depth	epth		Water	Water Content	Courses	Snc	Snow Density	У	in percent of	t of
	Fourteen	7.7		Fourteen	et house	'n	Fourteen			Fourteen	
	year	1949 19	1950	year	1949 1950	O Werage	year	1949	1950	year	1949
	Avg.*	,		***SAT			Avg.*		1	Avg.*	
COLORADO RIVER	In.	In	In,	In.	In, In,		Percent	Percent .	Percent		
Colorado Riversk	36.4	34.5	37.3	12.7	12.1 13,3		<u>کر</u>	35	36	105	110
Roaring Fork	29.9	26.0	23.1	11,3	13,3 10,3	3 4	38	13	<u>구</u>	16	91
Plateau Creek	61.2	50.9	53.3	23.9	20.9 21.	1 2	39	177	07	88	101
Yampa River	41.9	40.9	47.6	17.0	18.5 20.0		다	강	775	118	108
White River	30.9	33.7	26.0	6.6	14.8 10.		30	777	다	115	72
Gunnison Miver	37.2	34.1	28.4	14.2	13.3 11.	3 10	38	39	07	80	∞ √
Green River	19.1	114.8	39.5	7.2	6.0 15.		38	악	017	220	566
Dolores River	15.7	14.5	0.0	7.3	8.2 0.0	8	1.7	52	0	0	0
San Juan River	28.1	33.1	16,6	13.2	16.7 8.0	7	47	20	718	61	748
Animas River	11.9	2.7	0.0	4.4	1,3 0.0	5	37	35	0	0	0

DATA I O N PRECIPITAT

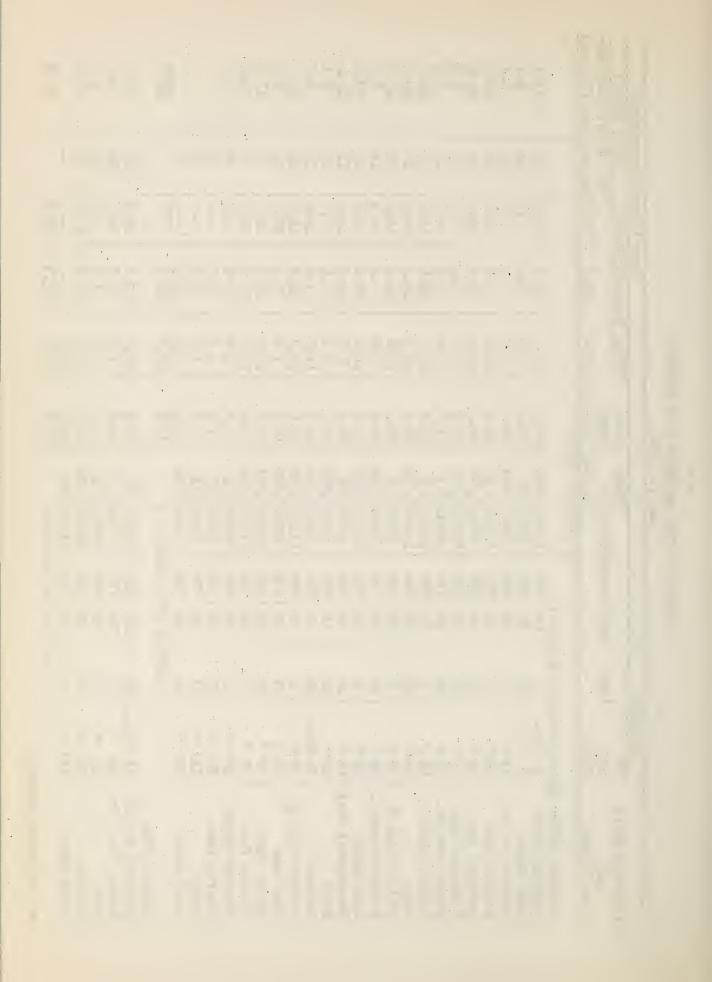
		1	Departure	Precipitation	Departure
WATERSHED	STATE		from		from
		April 30	Normal	April	Normal
		l	Inches	Inches	Inches
Colorado	Colorado		-1.15	1,31	-0.37
Green	Wyoming		+2.18	1,31	+0.47
San Juan	New Mexico		-2.67	0.14	-0,80
Colorado	hrizona		-3.61	0.11	-0.90
Gila	Arizona		-3.52	0,10	-0.56
	The state of the s				

**Colorado (above Glenwood Sorings)



COLORADO RIVER DRAINAGE SNOW SURVEYS May 1, 1950

mente	Boond	Av.Water Con-	0			23.7	6.9	5,2	11.0	37 ⁷ °9	5,3	5.4	24,5	19,2	12,6	7.5	23,6	1, 4L	7.1	8,7	16.9	8,6	17.5	18,2	5,9			ļ	15° (16.3	ア・ア・	1°2	17.3		11,3	
stanomonus coll		Irs.of A	prd			77	77	†‡	77	77	77	77	13	ន	12	12	12	디	12	12	77	_ ;;	<u></u>	∞	m	r-I		г			77		777	7	1		
TOTTON	1 0	7	1948			27.4	6,3	2,6	17,0	16.5	9,3	6.2	18,7	20,5	10,9	6,3	24.2	15.9	0.6	16,0	14.9	11,8	21.2	20,5	5,6	1	1	1			20,3	70°7	L°2	18.7	1	12,3	
Snow			1949			24.5	7.0	6.1	9,1	14.3	3.4	7 8 8	14,4	19,2	14,1	5,2	26,1	7,41	6.4	2,6	14.9	9°9	16.3	15,8	3,6	0,0	2,5	7,7	12,1		13.7	~ \\ \cdot \	1,5	23,1	!	11.3	
	Water Content	1000	1950			24,2	9.1	6,5	10,4	12°6	0,8	6°9	16.0	20°3	15.8	ν, ω	0° ದ	8 7	7.1	11.7	19.2	7.2	20°5	23,0	3,8	3,3	L°3	0,0	1303		18,5	(°p	೦ೣ೦	15,1	17.3	10,3	-
2	Show	Depth	(Inches)	VE.	Published 1	0.19	25,5	19.0	31,1	36.2	22.2	17.9	7.44	53.9	38.5	2000	66.6	28.8	80.9	26,1	59.4	18.4	53.8	0°09	8,9	7,3	3,3	0,0	3103	***	37.6	18,2	0,0	36,6	44.2	23.1	
הומץ דף ד/	Date Date	of o	Survey	ORALO RI	-	0 4/28	1/5 0	0.7/30	0/5/1	0 4/28	0 4/29	0 5/1	0/2/1	0/17/30	0/5/1	0/17/30	0 4/29	0 5/2	0 4/28	0/1/30	0 4/29	0 4/27	0 4/27	0 4/28	0 5/1	0 5/2	0/5/1	0 4/28			0/5/2					(1)	-
Tial .	-	Elev		COIO		1030	920(930	0777	026	1020	Ŏ 0 -	1100	1020	950	006	1060	950	990	950	1140	910	1050	1125	885	8500	870		ınage	process	10200	720	0.50	1040	1100	drainage	
	-	Range				76W	7811	76W	78W	75W	80M	177W	80M	16W	78W	75W	75W	74W	7511	76W	1862	831	128	76W	MLL L	174W	177W	7511	ď		82W	0	83	82W	83W	for d	
	-	Twp	-		Springs)	- 6N	<u>S</u>	5N	88	25	88 88	38	88	19 N	1 LN	N†	- S	2N	13	28	83	2N	9		- 2S	2N	2N	7			115	LLS	 SS	98	8 S	Average	
2		Sec				2.	24	2	13	35	21	91	~	25	~	56	80	22	34	91	2	27	15	2	띥	8	디	36	Average		30	202	-1	12	2	ÀV	
Institut	No	and	State		Above Glenwood	1 00100	2	12 "	177 "	16 "	19 "	37 "	1 [†] 1 [†] "	59 =	62 "	†19	65 "	n 99	ıı 69	70 Colo,	11 62	91 "	11 96	n 26	102 "	106 "	113 #	127 "			\circ	之 :	112	100	131 "	The state of the s	กลge
	Theinede Beain		Snow Course		COLORADO RIVER (A)	Cameron Pass*	Park Views	Phantom Valley	Hoosier Pass	Berthoud Pass	Tennessee Pass	M.Fork Camp Gr.	Fiddler Gulch	Lu1u	Willew Creek P.	N. Inlet Grand L.	Lake Irene	Thunderbolt Peak	Arrow	Lapland	Fremont Pass #2	Lynx Pass	Shrine Pass	Grizzly Peak	Gien-Mar Ranch	Monarch Lake		Grand Lake	() t		Ind, Pass Tunnel	Notost Trail Cre	Nast	Ivanhoe	Woods Lake		*On adjacent drainage



-7-COLORADO RIVER SNOW SURVEYS May 1, 1950

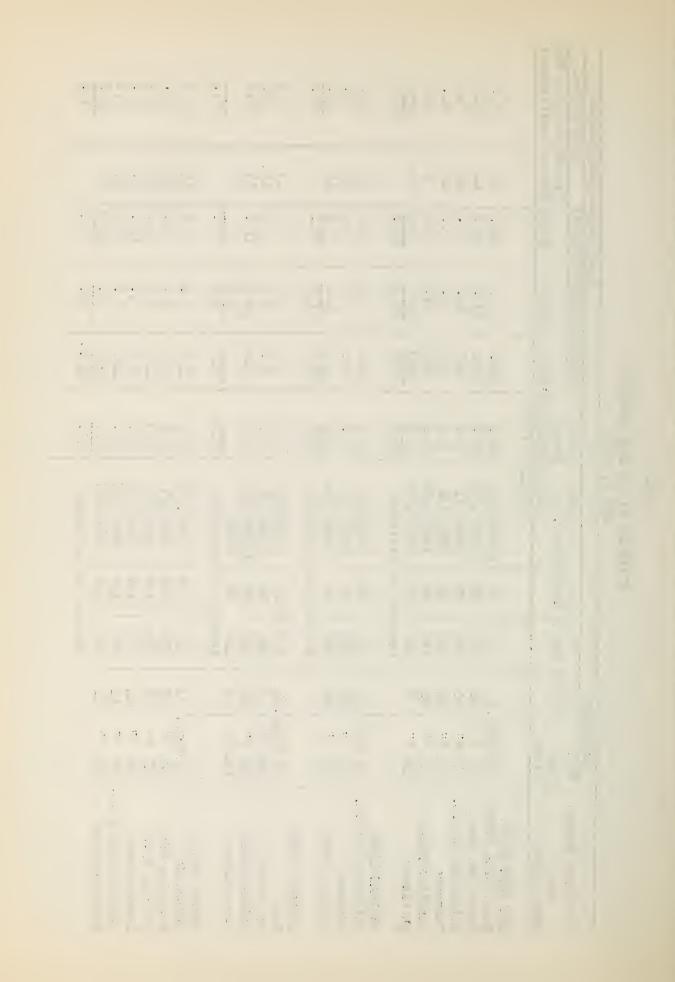
	Loca	Location								Snow Co	ver Mea	Snow Cover Measurements
Drainage Basin	Nos					Date	Snow	Water (Content(Inches)	4	Past Record
and	and	Sec.	Twp,	Range	Elev.	QTO	Dep th				Yrs. of	Av. Water Con-
Snow Course	State					Survey	_	1950	1949	1938	Record	tent(Inches)
					00	COLORADO	RIVER					
PLATEAU CREEK			7	1-7		00/	000	(C	() ()	(*	0 %
Mesa Lakes	50 COTO.	5	TTS	700	10000 1/20	07/17	7°02) • OT	12.9	17,4	7 6	7°0T
Trickle Divide		53	IIS	176	710000T	1/29	(8.3	7:1	50,9	20,0	⊋	7T,0
			A.V.E	srage	for drainage	lage	53,3	21,1	20,9	54.9		23.9
YAMPA RIVER		-17.0		-	\$error				- /			
Dry Lake	6 Colo3		N.	871	8200 7	1/28	35,8	16,3	16,5	17,5	17	15,1
Columbine Lodge*		21	Z.	82W	9300 7	1/27	49,1	20,8	21.4	22,4	14	16.2
Elk River	11 6	9	TON	85W	8700 5	マレ	45.7	17.9	11.3	11,2	14	12,0
Lynx Fass	m 16	27	21	83W	1 0016	1/57	18,4	7.2	9.9	H .8	14	8,6
Old Battle*	9 wyo.	29	14N	. 85W	7,0086	4/27	83,8	37.7	36.9	34.9	17	32.9
			Aver	age for	drainag	9	47.6	20,0	18,5	19.6		17.0
WHITE RIVER												
Burro Mountain	O		25	9114	9000;	1/1	32.9	15.0	16,2	15.7	17	0°6
Rio Blanco	36 "	28	Z	288 1388 1388	8500 4/30	1/30	19.0	6.7	13,3	16	17	9.6
/			ے	age for	drainage	. o	26,0	10.9	14.8	12,6		6.6
GUNNISON RIVER			-)	,	*			d at applicate			
Crested Butte	18 Colo.	22	138	867.	1,0006	1/3	11,8	4.2	7.7	10.4	17	6.7
Marshall Creek			1,8M	三9	10800	/30	73,57	4.6	12.4	12,3	17	10.6
Poncha Creek*	113 "	19	1,8M	7正	105001	1/28	9.6	3,7	9,2	11.7	17	8.7
Park Cone	1,6 ni	13	145	821	9700	9/9	17.3	4.3	75,	13.9	13	7.4
Alexander Lake	53 ==	2	128	25	100001	1/28	52.0	22,5	24.8	27.0	1	24.5
Snowshoe Mesa	- 25 =	17	138	1 89W	75001	/30	4, 4	2.1	0,0	9°9	<u>n</u>	2,4
Ironton Park	500	29	1,3N	7	9300 1	1/30	0,0	0,0	7.0	9,3	13	0%
Trickle Divide	85 u	23	113	94w	100001	1/29	78,3	31,5	28,9	30.3	10	31.6
Park Reservoir	87 #	34	11S	M1/6	9500 1	1/29	68.9	28.6	26.0	26.8	10	56.6
Porphyry Creek	89 u	13	N647	E	10800 1	1/27	28,5	11,3	17.0	19.4	10	17.4
Kannah Creek	101	<u>بر</u>	1.25	M56	10700!	1/27	54.6	21,7	22.6	29,6	m	. 27.2
Lake City	107 11	13	13M	3	10300 5	3	0.0	0.0	7,70	4.2	2	1.7
Spring Cr. Pass	123 "	2	42M	31	10900	1/5	0.0	0.0	10.8	1	r 1	1
Cochetopa Pass	126 "	12	- 15%	3E	10000	77	0.0	0.0	4,1	1	r-1	1
McClure Pass	132 "	Н	21.5	8911	7,0056	1/30	26,8	11.2	1		-	1
	••••		AVCrage	e for a	arainage		28.4	11,3	13,3	16.3		14.2

win adjacent drainage

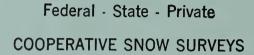


-8-COLORADO RIVER SNOW SURVEYS May 1, 1950

	Measurements	Past Record	Av. Water Con-	tent(Inches)		7 20	- 17	76,0	T.3	2.9	1,9	13.2		1.3	2.9	0.6	7-17		۳. ا	7.6	16.1	7.3		3.2	0.9	ν, ω	6.6	7.0	12.5	7.2	
		Pe	Irs. of	Record			†	† 	77.	77	0	1		77	77	ಬ			<u>n</u>	14	2	Н		177	17	177	77	14	77	-	
	Snow Course	Inches),		1948		0 76	000	C.24	0.0	0.0	0.0	15.7		0.0	0.0	9.3	3.1		0.0	0.0	11.1	3.7		4.3	4.6	7.0	11.3	10,4	16.0	φ. 1.	
C	ouc	Content (A solve	1949		J.	ς. α.	0.04	0.0	0°0	0.0	16.7		0,0	0.0	4.0	1.3		0.0	0.0	24.7	000		0.4	3.4	9.4	7.9	4.9	8.7	0.9	3-1-1
		Water		1950		8 7 5	0.0 0.0 0.0	7.67	0	0°0	0.0	000		0.0	0.0	0.0	0,0		0.0	0.0	0.0	0) ;	11.8	13,4	11,5	21.9	14,5	22.2	15.9	
1320		Snow	Depth	(Inches)	RIVER	101.10	24° tt	0.01	0.0	0.0	0.0	0.0		0,0	0.0	0.0	0.0		0.0	0.0	0°0	C	,	31.5	34.4	28.7	53.0	34.9	54.4	39.5	
May L,		Date	Elev, of	Survey	COLORADO	00001	<u> </u>	10000T	9400 5/1	8850 5/1	7950 4/30	9700′4/30 drainage)	9400 5/1	8850 5/1	8700' 4/30	drainage		8700 4/30	8600 5/1		9700 Grainase	0	8700 4/28	8900 5/1	7900 5/2	77	1	É	drainage	
			Range			ر تار			E	116	- M	111W)	R	N6	_	ige for	Bio 6-1	TIM		10M	977		104	108W	11011	1111	114	TITM	for	
			Twp.			7.67.0	7 18	3 7	NT7	39N	37N	36N Avera		NT/	39 N	43N	Average		39N	12N	NTH.	Average		31N	35N	38N	37N	29N	29M	Average	
	on.		Sec.					2	2	12	77	寸			12	59				9.	27	∞		33	17	23	17	1,	13		-
	Location	No.	and	State			•0T0> 07		-	_	93 "	135 "		30 Colo.		58 =			O	24 "	25 "	177		23 Wyo.	24 "	25 "	26 11	27 "	28 "		
		Drainage Basin	and	Snow Course		لسا			Silverton Sub.S.	Cascade	Granite Peaks	La Plata	ANIMAS RIVER	Silverton Sub.S.	Cascade	Ironton Park		DOLORES RIVER	Rico	Telluride	Lizard Head	Trout Lake	GREEN RIVER	Dutch Joe	Willigan Park	Kendall R.S.	Loomis Park	Snyder Basin R.S.	Piney-LaBarge		







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"